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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,362

02/12/2007

Hisakazu Tanaka

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9488

21874

7590

12/16/2009

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EXAMINER

ENG, ELIZABETH

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

12/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,362	Applicant(s) TANAKA ET AL.	
	Examiner ELIZABETH ENG	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/27/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4, 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED REJECTION

1. The amendment overcomes the informality objection to the word --easy-- on Page 3, which has now been corrected to read --ease--.
2. Applicant's arguments with respect to claims original claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

35 U.S.C. 103 Rejection

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. (JP 2003 - 201306, translation provided by US Pat. No. 7,317,056), in view of Nawata et al. (PGPUB 2003/0153887), and further in view of Ichiki et al. (US Pat. No. 3,691,108).

7. Regarding claims 1, 2, 4, and 5, Yoshimura et al. teaches a method for forming polymer particles having a core/shell structure to produce adhesives easily swollen with water [abstract], wherein the process comprises first forming a shell layer from a mixture of deionized water, acrylic acid (claim 2), 2-hydroxyethylacrylate, and ammonium persulfate initiator, and a core produced from an emulsion of butyl acrylate, 3-ethylhexyl acrylate, methacrylic acid, ammonium persulfate initiator, and anionic emulsifier A consisting of a compound containing an allyl group added to a benzene ring in sodium polyoxyethylene nonyl phenyl ether sulfonate.

8. Yoshimura et al. is silent with respect to adding a crosslinking agent to the methacrylic solution, and then suspending the core mixture in a solvent containing nonionic surfactant. However, in the same field of endeavor of producing a water-absorbent polymer [abstract], Nawata et al. teaches a method for producing a core by suspension polymerizing a core mixture in a solution of n-heptane solvent and sorbitan

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monolaurate nonionic surfactant having a HLB value of 8.6 (claim 4), wherein the nonionic surfactant can be a polyoxyethylene sorbitan fatty acid ester having a HLB value of greater than 6 (claim 5) [0058] and an internal crosslinking agent can be added to the monomer solution [0054], for the benefit of producing a water-absorbent resin that efficiently absorbs viscous liquids [0019].

9. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Yoshimura and Nawata for the benefit of producing a water-absorbent resin that efficiently absorbs viscous liquids.

10. The combination of Yoshimura and Nawata is silent with respect to the anionic surfactant having the formula $R'SOM$. However, Ichiki et al. teaches sodium salts of a sulfonates [column 2, lines 32-34] containing a straight chain alpha-olefin of the formula $R'-CH=CH_2$, wherein R' is an alkyl radical of 12 to 20 carbons [column 1, line 25-27], have high detergency and wetting properties [column 7, line 56; column 8, line 1]. Since Yoshimura et al. produces an emulsion and high detergency is directly related to the dispersing ability of a surfactant, it would have been obvious to use sodium alpha-olefin sulfonate in the emulsion of Yoshimura for the benefit of producing a uniform dispersion of core particles. Furthermore, since the sulfonate surfactant has good wetting properties it would provide better adsorption to water, in turn providing better water swellability as desired by Yoshimura.

11. It would have been obvious to one of ordinary skill in that art at the time the invention was made to combine the teachings of Yoshimura and Nawata with Ichiki for

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the benefit of producing a uniform dispersion while forming the core emulsion and to provide a product with good water absorption.

12. The combination of Yoshimura, Nawata, and Ichiki is silent with respect to the number average molecular weight of the shell polymer being from 500 to 10,000. However, since Yoshimura et al. uses a small amount of ammonium persulfate, an initiator disclosed in the instant application [Page 27, line 2], and polymerizes at a moderate enough temperature to produce a resin with good water swellability [last row of Table 3 and line 58], the examiner believes that the shell polymer of Yoshimura et al. would have a number average molecular weight within the claimed range. Since the PTO does not perform experiments, the burden is shifted to the applicant to show that the shell polymer of Yoshimura does not have a molecular weight within the claimed range. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH ENG whose telephone number is (571)270-7743. The examiner can normally be reached on Mondays through Fridays from 9:30 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ELIZABETH ENG/

/David Wu/

Supervisory Patent Examiner, Art Unit 1796